



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,548	11/26/2003	Nobuhiro Rikitake	826.1909	6279
21171	7590	12/05/2007		
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER TRAN, NGHI V	
			ART UNIT 2151	PAPER NUMBER
			MAIL DATE 12/05/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/721,548

Applicant(s)

RIKITAKE ET AL.

Examiner

Nghi V. Tran

Art Unit

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 09/27/2007.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This office action is in response to the amendment filed on September 10, 2007. No claims have been amended. No claims have been canceled. Claims 13-14 have been withdrawn. Therefore, claims 1-16 are presented for further examination.

#### ***Election/Restrictions***

2. Applicant's election with traverse of Group I, claims 1-12, in the reply filed on September 10, 2007 is acknowledged.

3. Claims 13-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Group II, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on September 10, 2007.

4. Applicant's election with traverse of Group II, claims 13-16, in the reply filed on September 10, 2007 is acknowledged. The traversal is on the ground(s) that claims 1-12 and 15-16 would not produce an undue burden upon the Examiner. This is persuasive. Therefore, the Examiner considers claims 1-12 and 15-16 together.

#### ***Claim Rejections - 35 USC § 102***

Art Unit: 2151

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Perkins et al., United States Patent Application Publication Number 2004/0156325 (hereinafter Perkins).

7. Regarding claims 1 and 15, Perkins teaches a communications system used in a network where a plurality of communication nodes are connected [fig.1 and see abstract], comprising:

- a digital wrapper unit, which is provided in each of the plurality of communication nodes, transmitting/receiving a digital wrapper frame [= digital wrapper frame, paragraphs 0036 and fig.1];
- a converting unit, which is provided in each of first and second communication nodes among the plurality of communication nodes, performing mutual conversion between data in a predetermined format [= client format] and a digital wrapper frame [= digital wrapper frame] [paragraphs 0013, 0037-0044, 0070, 0086 and fig.2]; and

- a network management unit managing states of the plurality of communication nodes [= management and monitoring of each optical channel wavelength, paragraph 0036], wherein said digital wrapper unit transmits to the second communication node a digital wrapper frame obtained by said converting unit in the first communication node in accordance with an instruction from said network management unit, and said converting unit, which is provided in the second communication node, converts the received digital wrapper frame into the data in the predetermined format [= client format] [paragraphs 0013, 0037-0044, 0070, 0086 and figs.1&2].

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins et al., United States Patent Application Publication Number 2004/0156325 (hereinafter Perkins), as applied to claims 1 and 15 above, and further in view of Fant et al., United States Patent Application Publication Number 2004/0076151 (hereinafter Fant).

10. Regarding claims 2 and 3, Perkins does not explicitly show a first storing unit storing topology information that represents a connection relationship among the plurality of communication nodes, a second storing unit storing route information that represents a communication route connecting the first communication node and the second communication node, and a controlling unit giving an instruction to a communication node involved in the communication route based on the topology information and the route information.

In optical transmission network, Fant discloses a first storing unit storing topology information that represents a connection relationship among the plurality of communication nodes, a second storing unit storing route information that represents a communication route connecting the first communication node and the second communication node [fig.1 and paragraphs 0019-0025], and a controlling unit [= GMPL controller 15] giving an instruction to a communication node involved in the communication route based on the topology information and the route information [paragraphs 0019-0025].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Perkins in view of Fant by controlling the communication route based on the topology information and the route information because the control plane can be operated on the same physical carrier or on an independent carrier [Fant, paragraph 0023]. It is for this reason that one of ordinary skill

in the art at the time of the invention would have been motivated in order to ensure that all network reconfiguration occurs in a precise ordered fashion [Fant, paragraph 0006].

11. Regarding claims 4 and 16, Perkins does not explicitly show wherein: said network management unit further comprises a fault detecting unit detecting a location where a fault occurs on the network, and an updating unit updating the route information stored in said second storing unit according to the location where the fault occurs, which is detected by said fault detecting unit; and said controlling unit gives an instruction to a corresponding communication node based on the route information updated by said updating unit.

In optical transmission network, Fant discloses a fault detecting unit detecting a location where a fault occurs on the network, and an updating unit updating the route information stored in said second storing unit according to the location where the fault occurs, which is detected by said fault detecting unit; and said controlling unit gives an instruction to a corresponding communication node based on the route information updated by said updating unit [fig.6 and paragraphs 0045-0054].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Perkins in view of Fant by detecting a location where a fault occurs on the network because this feature reduces the latency of the restoration [Fant, paragraph 0046]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to protect against other faults [Fant, paragraph 0046].

12. Regarding claim 5, Perkins does not explicitly show wherein: said network management unit manages information for using communication resources of respective lines between the plurality of communication nodes as first and second paths; and said controlling unit gives to a corresponding communication node an instruction for setting up the communication route by using the first path if a fault is not detected on the network, and gives to a corresponding communication node an instruction for setting up a bypass route by using the second path according to a location where a fault occurs if the fault is detected on the network.

In optical transmission network, Fant discloses said network management unit manages information for using communication resources of respective lines between the plurality of communication nodes as first and second paths [paragraphs 0007, 0054]; and said controlling unit gives to a corresponding communication node an instruction for setting up the communication route by using the first path if a fault is not detected on the network [fig.6], and gives to a corresponding communication node an instruction for setting up a bypass route by using the second path according to a location where a fault occurs if the fault is detected on the network [paragraphs 0045-0054].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Perkins in view of Fant by detecting a location where a fault occurs on the network because this feature reduces the latency of the restoration [Fant, paragraph 0046]. It is for this reason that one of ordinary skill in the



art at the time of the invention would have been motivated in order to protect against other faults [Fant, paragraph 0046].

13. Regarding claim 6, Perkins does not explicitly show wherein: said network management unit further comprises a determining unit determining whether or not to set up a bypass route according to a type of a signal transmitted via a communication route when a fault occurs on the communication route connecting the first communication node and the second communication node, and an updating unit updating the route information stored in said second storing unit if said determining unit determines to set up a bypass route; and said controlling unit gives an instruction to a corresponding communication node based on the updated route information when the route information is updated by said updating unit.

In optical transmission network, Fant discloses a determining unit determining whether or not to set up a bypass route according to a type of a signal transmitted via a communication route when a fault occurs on the communication route connecting the first communication node and the second communication node, and an updating unit updating the route information stored in said second storing unit if said determining unit determines to set up a bypass route; and said controlling unit gives an instruction to a corresponding communication node based on the updated route information when the route information is updated by said updating unit [fig.6 and paragraphs 0045-0054].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Perkins in view of Fant by ddetermining

Art Unit: 2151

whether or not to set up a bypass route according to a type of a signal transmitted via a communication route when a fault occurs on the communication route connecting the first communication node and the second communication node because this feature reduces the latency of the restoration [Fant, paragraph 0046]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to protect against other faults [Fant, paragraph 0046].

14. Regarding claim 7, Perkins does not explicitly show wherein said determining unit determines not to set up a bypass route if a communication route on which a fault occurs is an SDH network or a SONET network.

In optical transmission network, Fant discloses determining unit determines not to set up a bypass route if a communication route on which a fault occurs is an SDH network or a SONET network [fig.6 and paragraphs 0045-0054].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Perkins in view of Fant by determining unit determines not to set up a bypass route because this feature reduces the latency of the restoration [Fant, paragraph 0046]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to protect against other faults [Fant, paragraph 0046].

15. Regarding claim 8, Perkins does not explicitly show wherein said determining unit determines to set up a bypass route if a communication route on which a fault occurs is an Ethernet system.

In optical transmission network, Fant discloses determining unit determines to set up a bypass route if a communication route on which a fault occurs is an Ethernet system [fig.6 and paragraphs 0045-0054].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Perkins in view of Fant by determining unit determines to set up a bypass route because this feature reduces the latency of the restoration [Fant, paragraph 0046]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to protect against other faults [Fant, paragraph 0046].

16. Regarding claim 9, wherein: a line between the plurality of communication nodes is a WDM transmission line; and each of the plurality of communication nodes further comprises a multiplexing unit transmitting digital wrapper frames that store different data in parallel [paragraphs 0008, 0039, 0040, 00041, 0070].

17. Regarding claim 10, Perkins further teaches wherein each of the plurality of communication nodes further comprises an equalizing unit equalizing a WDM signal [paragraphs 0007, 0035, 0037, 0069, 0073].

18. Regarding claim 11, Perkins further teaches wherein said equalizing unit is a variable optical attenuator attenuating WDM light, and a controlling circuit controlling the variable optical attenuator [paragraphs 0007, 0035, 0037, 0069, 0073].

19. Regarding claim 12, Perkins further teaches wherein said equalizing unit is an optical amplifier amplifying WDM light, and a controlling circuit controlling the optical amplifier [paragraphs 0007, 0035, 0037, 0069, 0073].

### ***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. "Link discovery, verification, and failure isolation in an optical communication system," by Gerstal et al., United States Patent Application Publication Number 2004/0008988.

b. "LAN signal transmitting method, and a transmitting apparatus using the method," by Kunimatsu et al., United States Patent Application Publication Number 2006/0274785.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V. Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Thursday and every other Friday (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nghi Tran  
Patent Examiner  
Art Unit 2151

 **JOHN FOLLANSBEE**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**

~~October 18, 2007~~

\*\*\* 12/3/07

